

Application No. 10/668,537
Docket No. 15436.106
Reply to Final Office Action mailed August 19, 2005

REMARKS

This paper is presented in response to the Office Action. No claims are canceled, amended or added by this paper. Claims 1-36 remain pending.

Reconsideration of this application is respectfully requested in view of the following remarks. For the convenience and reference of the Examiner, the remarks of the Applicants are presented in the order in which the corresponding issues were raised in the Office Action.

I. General Considerations

Applicant notes that the remarks, or a lack of remarks, presented herein are not intended to constitute, and should not be construed as, an acquiescence, on the part of the Applicant: as to the purported teachings or prior art status of the cited references; as to the characterization of the cited references advanced by the Examiner; or as to any other assertions, allegations or characterizations made by the Examiner at any time in this case. Applicant reserves the right to challenge the purported teaching and prior art status of the cited references at any appropriate time.

II. Objection to the Specification

The Examiner has objected to the specification "because the use of the trademarks 'HPC/H02' and 'HPC/H05' has been noted in this application and the generic terminology of the material known by the trademark stated above was not provided in the specification." Applicant disagrees that the specification is deficient.

Applicant notes at the outset that, contrary to the position taken by the Examiner, the examination guidelines do not require disclosure of the "generic terminology" of a product with which a mark is associated. Rather, the provisions of the examination guidelines with respect to disclosure of generic terminology are advisory only. Particularly, form paragraph 6.20 states in part that "[The trademark] should be capitalized wherever it appears and be accompanied by the generic terminology." *MPEP* § 608.01(v). *Emphasis added*. Had it been the intent for the examination guidelines to require inclusion of generic terminology, the advisory term "should" would not have been employed in form paragraph 6.20, and a more appropriate term such as "must" or "shall" would instead have been employed.

Consistent with the foregoing understanding, the examination guidelines also provide that "if the product to which the trademark refers is set forth in such language that its identity is clear, the examiners are authorized to permit the use of the trademark if it is distinguished from common descriptive nouns by capitalization." *Id.* If, on the other hand, "the trademark has no fixed and definite meaning, identification by scientific or other explanatory language is necessary." *Id.*

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In the present case, Applicant submits that the Examiner has failed to provide any argument or evidence that the identity of the product to which the trademarks HPC/H02 and HPC/H05 refer is unclear. Moreover, the objection of the Examiner, wherein the Examiner appears to require submission of generic terminology is, at best, inconsistent with the examination guidelines. Further, Applicant submits that, in any event, there is ample scientific and explanatory language in the specification to identify the product associated with the 'HPC/H02' and 'HPC/H05' marks, or comparable products. Such scientific and explanatory language in the specification concerning the coating includes the disclosure identified at III. below.

In connection with the foregoing, Applicant notes that the Examiner has stated in the "Response to Arguments" section of the Office Action that "The particular characteristics and properties of the emissive coatings indicated by the application still do not provide sufficient information about what the coating materials are since there is no evidence on the record to show that other materials which is not used as an emissive coatings would not have these characteristics and properties as well." In this regard, Applicant respectfully submits that there is no burden on the Applicant to prove that other materials not used as emissive coatings would not have the disclosed characteristics and properties. Particularly, the examination guidelines do not appear either to define or impose any such burden. Thus, the assertion of the Examiner that the disclosed characteristics and properties of the emissive coatings do not provide sufficient information about the coating materials is not well-founded.

Further, Applicant notes that paragraph [055] of the specification was amended in a previous paper to recite "Additionally, 'HPC/H05,' or simply 'H05,' sold under the trademark HiPerCoat® and produced by HPC, is one example of a low emissivity coating that is well suited for use in applications where it is desired to minimize heat emission from the coated component. The HIPERCOAT® mark is a registered mark of HIGH PERFORMANCE COATINGS, INC. CORPORATION OKLAHOMA for use in connection with protective coatings for metals and the application of protective coatings for metals." In view of this, Applicant respectfully submits that the Examiner has not exhausted all possible resources.

Finally, Applicant notes that the Examiner has stated as well in the "Response to Arguments" section of the Office Action that "Since the Examiner has exhausted all the possible resources available, Applicant is required to provide the generic name of coating material of 'HPC/H02' and 'HPC/H05.'" *Emphasis added.* While the Examiner has not made this assertion in connection with any rejection of record, Applicant nonetheless submits the following comments for the consideration of the Examiner.

Particularly, Applicant submits that as noted above, the examination guidelines do not require an Applicant to provide such a generic name. Moreover, Applicant submits that it is not evident from the examination guidelines that the question of whether or not a generic name should be provided in the specification hinges upon the ability of the Examiner to determine such generic name.

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For at least the foregoing reasons, Applicant respectfully submits that the objection to the specification should be withdrawn.

III. Claim Rejections Under 35 U.S.C. § 112, first paragraph

The Examiner has rejected claims 1-36 as purportedly failing to comply with the enablement requirement. Particularly, the Examiner has asserted that "The claimed emissive coating which substantially comprising an inorganically bonded ceramic was not described sufficiently in the specification to enable one skilled in the art to make and use the invention." For at least the reasons outlined below, Applicant respectfully disagrees.

At the outset, Applicant submits that, contrary to the assertion of the Examiner, there is ample disclosure in the application to enable one of skill to make and use the claimed invention without due experimentation. Particularly, Applicant respectfully submits that one of skill in the art, having the benefit of the disclosure of this application, which disclosure includes the following properties, characteristics and features, among others, of the claimed coating, would be able to make and use the claimed invention without undue experimentation:

- emissive inorganic coating
- inorganic ceramic slurry
- corrosion and oxidation inhibitor for iron, stainless steel, titanium, aluminum and other metals
- particulate containment
- inorganically bonded ceramic slurry with oxide filler
- no VOC emissions
- good dielectric properties
- stable at temperatures as high as 1450F
- example effective coating thicknesses are 0.0003 to 0.0007 inches
- coating can be applied by spraying
- cured coating comprises a porous free ceramic composite
- cured coating appears as a black semi-gloss coating having a relatively smooth surface
- coating comprises a passivated thermal barrier
- coating may be thermally cured after application for about 30 mins. at 650F

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Specification at pages 8 and 17. Applicant further submits that the aforementioned information would likewise be sufficient to apprise one of skill in the art as to commercially viable alternatives to the disclosed and claimed coatings.

For at least the reasons outlined below, Applicant respectfully submits that the Examiner has failed to establish that the specification, which includes the information noted immediately above, would not enable one of skill in the art to practice the claimed invention without undue experimentation.

Specifically, Applicant notes that the Examiner has failed to properly state the test for enablement. Particularly, the test for enablement is not, contrary to the assertion of the Examiner, simply whether the claimed invention "was described sufficiently in the specification to enable one skilled in the art to make and use the invention." Rather, it is well established that "The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. *In Re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)." *MPEP* § 2164.01. *Emphasis added.* In light of the foregoing, Applicant respectfully submits that the enablement test articulated by the Examiner is plainly inconsistent with longstanding U.S. Supreme Court and Federal Circuit precedent.

Applicant notes, moreover, that a determination that "undue experimentation" would have been needed to make and use the claimed invention is not easily reached. Particularly, the examination guidelines provide that "there are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any experimentation is 'undue.' These factors include, but are not limited to:

- (A) The breadth of the claims;
- (B) The nature of the invention;
- (C) The state of the prior art;
- (D) The level of one of ordinary skill;
- (E) The level of predictability in the art;
- (F) The amount of direction provided by the inventor;
- (G) The existence of working examples; and
- (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure."

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MPEP § 2164.01(a). *Emphasis added.* In connection with the foregoing, the examination guidelines further provide that "It is improper to conclude that a disclosure is not enabling based on an analysis of only one of the above factors while ignoring one or more of the others. The examiner's analysis must consider all the evidence related to each of these factors, and any conclusion of nonenablement must be based on the evidence as a whole. *Id.* *Emphasis added.*

As to the aforementioned factors, the examination guidelines explain that "The determination that 'undue experimentation' would have been needed to make and use the claimed invention is not a single, simple factual determination. Rather, it is a conclusion reached by weighing all the above noted factual considerations." *Id.* *Emphasis added.*

As the foregoing makes clear, the Examiner has not only failed to properly state the test for enablement, but the Examiner has likewise failed to address the issue of undue experimentation as such is contemplated by the enablement test. Applicant respectfully submits that the aforementioned deficiencies are fatal to the rejection posed by the Examiner under 35 U.S.C. § 112, first paragraph.

Finally, inasmuch as the Examiner has provided no evidence or analysis whatsoever concerning the purported lack of enablement regarding claims 1-36, and has instead simply provided a conclusory statement that the claims fail to comply with the enablement requirement, it appears that the Examiner is relying on personal knowledge as a basis for rejecting claims 1-36. In view of the foregoing, and pursuant to 37 C.F.R. 1.104(d)(2), Applicant hereby respectfully requests an Examiner affidavit that: (i) specifically identifies any and all reference(s), other than those that have been specifically cited by the Examiner, upon which the rejection of claims 1-36 is based; and (ii) provides complete details concerning the reasoning and analysis of the Examiner concerning those references as those references are purported to apply to the rejection of claims 1-36.

For at least the reasons set forth above, Applicant respectfully submits that the rejection of claims 1-36 under 35 U.S.C. § 112, first paragraph should be withdrawn.

IV. Claim Rejections Under 35 U.S.C. § 102(b)

Applicant respectfully notes that a claim is anticipated under 35 U.S.C. § 102(b) only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Further, the identical invention must be shown in as complete detail as is contained in the claim. Finally, the elements must be arranged as required by the claim. *MPEP § 2131*.

The Examiner has rejected claims 1-2, 4-15 and 17-19 under 35 U.S.C. § 102(b) as anticipated by one or both of US 3,400,882 to McManus ("*McManus*"), and US 6,329,098 to Bliesner ("*Bliesner*"). Applicant respectfully disagrees.

- a. rejection of claims 1-2, 4-15 and 17-19 based on *McManus*

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The Examiner has rejected independent claims 1 and 11 as anticipated by *McManus*, alleging that *McManus* discloses "a vacuum chamber comprising a coating of ceramic material covers the interior of the ion pump chamber. The walls of the pump chamber may be metallic material such as stainless steel. The ceramic coating may be any suitable ceramic coating for high vacuum environments and is not porous and has a glazed surface exposed to the interior of the vacuum chamber (col. 3, lines 60-75)." Notwithstanding the foregoing, Applicant notes that claims 1 and 11 require a "coating substantially comprising an inorganically bonded ceramic." *Emphasis added*. However, the passage of *McManus* cited by the Examiner makes no reference whatsoever to an "inorganically bonded ceramic."

In light of the foregoing, Applicant respectfully submits that the Examiner has failed to establish that claims 1 and 11 are anticipated by *McManus*, at least because the Examiner has not established that every element as set forth in claims 1 and 11 is found in *McManus*, and because the Examiner has not established that the identical invention is shown in *McManus* in as complete detail as is contained in the claims.

Applicant thus respectfully submits that the rejection of independent claims 1 and 11, as well as the rejection of respective dependent claims 2, 4-10, 12-15 and 17-19, should be withdrawn.

b. rejection of claims 1-2 and 4-10 based on *Bliesner*

The Examiner has rejected independent claim 1 as anticipated by *Bliesner*, alleging that *Bliesner* discloses "a component comprising stainless steel coated with an electrically insulating ceramic (col. 3, lines 1-30)."

Notwithstanding the foregoing, Applicant notes that claim 1 requires a "coating substantially comprising an inorganically bonded ceramic." *Emphasis added*. However, the passage of *Bliesner* cited by the Examiner makes no reference whatsoever to an "inorganically bonded ceramic."

In light of the foregoing, Applicant respectfully submits that the Examiner has failed to establish that claim 1 is anticipated by *Bliesner*, at least because the Examiner has not established that every element as set forth in claim 1 is found in *Bliesner*, and because the Examiner has not established that the identical invention is shown in *Bliesner* in as complete detail as is contained in the claim.

Applicant thus respectfully submits that the rejection of independent claim 1, as well as the rejection of dependent claims 2 and 4-10, should be withdrawn.

c. "inorganically bonded ceramic"

As expressed in the "Response to Arguments" section of the Office Action, the Examiner relies on Hawley's Condensed Chemical Dictionary, 13th Edition, p 231 ("*Hawley's*") for the general proposition, advanced by the Examiner, that "a ceramic is considered to be an inorganically bonded material." While the Examiner has not made this assertion in connection with any rejection of record, Applicant nonetheless submits the following comments for the consideration of the Examiner.

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The Examiner has asserted that the term "ceramic" is defined by *Hawley's* as "a product, in which silicon and its oxide and complex compound known as silicates occupy a predominant position." The Examiner further asserts, without any supporting evidence whatsoever, that "the components of ceramic material such as silicon, silicon oxide and silicates are all inorganic compounds" (emphasis added). The Examiner then concludes, based on the aforementioned unsupported assertion and the *Hawley's* definition, that "a ceramic is considered to be an inorganically bonded material." For at least the reasons outlined below, Applicant respectfully submits that the position of the Examiner lacks an adequate foundation.

For example, the foregoing statements by the Examiner appear to indicate that the Examiner has interpreted the *Hawley's* definition as providing that a ceramic consists exclusively of inorganic materials. However, the definition set forth in *Hawley's* makes no such assertion of exclusivity. Rather, *Hawley's* simply provides that "silicon and its oxide and complex compound known as silicates occupy a predominant position." Clearly, "predominant" and "exclusive" are not the same.

It would thus appear that, consistent with the *Hawley's* definition of "ceramic," a hypothetical "ceramic" could consist of 50.1% (i.e., a "predominance") of silicon and its oxide and silicates, and 49.9% (i.e., slightly less than a "predominance") of materials other than silicon and its oxide and silicates. In this regard, the *Hawley's* definition does not foreclose the possibility that the non-predominant constituents of a ceramic may be organic, nor has the Examiner established, or even asserted, that the non-predominant materials could not include other, possibly organic, materials.

Moreover, the *Hawley's* definition does not foreclose the possibility that at least some of the predominant constituents of a ceramic may be organic. With respect to such predominant constituents, the Examiner has asserted that "silicon, silicon oxide and silicates are all inorganic compounds." However, Applicant respectfully submits that the Examiner is clearly mistaken. Particularly, a "Google" search reveals that various types of organic silicates are known, examples of which include organic silicate complexes (Si-O-C), and organic silicates such as a C₁-C₂ orthosilicate such as tetracthyl orthosilicate (TEOS), and tetramethyl orthosilicate (TMOS). This can be readily verified by the Examiner.

In light of the foregoing discussion, it is evident that, contrary to the assertion of the Examiner, the *Hawley's* definition upon which the Examiner has relied does not foreclose the possibility that a relatively large portion of a ceramic may consist of organic compounds. Thus, the blanket assertion of the Examiner that "a ceramic is considered to be an inorganically bonded material" is clearly without basis.

Not only has the Examiner failed to give due consideration to the definition recited in *Hawley's*, but it further appears that the Examiner is relying on personal knowledge as a basis for rejecting the

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claims of this application that recite an "inorganically bonded ceramic," namely, claims 1-26. Particularly, and as noted above, the Examiner has made the unsupported assertions that "the components of ceramic material such as silicon, silicon oxide and silicates are all inorganic compounds" and that "a ceramic is considered to be an inorganically bonded material." In view of the foregoing, and pursuant to 37 C.F.R. 1.104(d)(2), Applicant hereby respectfully requests an Examiner affidavit that: (i) specifically identifies any and all reference(s), other than those that have been specifically cited by the Examiner, upon which the rejection of claims 1-36 is based; and (ii) provides complete details concerning the reasoning and analysis of the Examiner concerning those references as those references are purported to apply to the rejection of claims 1-36.

V. Claim Rejections Under 35 U.S.C. § 103(a)

Applicant respectfully notes at the outset that in order to establish a *prima facie* case of obviousness, it is the burden of the Examiner to demonstrate that three criteria are met: first, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; second, there must be a reasonable expectation of success; and third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP § 2143*.

The Examiner has rejected claims 1-2, 4-15 and 17-19 under 35 U.S.C. § 103(a) as being obvious over one or more of *McManus*, *Bliesner* and US 5,725,808 to Tormey et al. ("*Tormey*"). Applicant respectfully disagrees.

a. rejection of claims 1-2, 4-15 and 17-19 based on *McManus*

It was noted above that the Examiner has failed to establish that *McManus* or any other reference, teaches, or even suggests, the claimed "coating substantially comprising an inorganically bonded ceramic." Thus, even if the purported teachings of *McManus* are modified in the allegedly obvious fashion advanced by the Examiner, the resulting combinations fail to include all the limitations of the rejected claims.

In light of the foregoing, Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claims 1-2, 4-15 and 17-19, at least because the Examiner has not established that the purportedly obvious combinations teach or suggest all the limitations of the rejected claims.

Applicant thus respectfully submits that the rejection of claims 1-2, 4-15 and 17-19 should be withdrawn.

b. rejection of claims 1-2 and 4-10 based on *Bliesner*

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As also noted above, the Examiner has failed to establish that *Bliesner* or any other reference, teaches, or even suggests, the claimed "coating substantially comprising an inorganically bonded ceramic." Thus, even if the purported teachings of *Bliesner* are modified in the allegedly obvious fashion advanced by the Examiner, the resulting combinations fail to include all the limitations of the rejected claims.

In light of the foregoing, Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claims 1-2 and 4-10, at least because the Examiner has not established that the purportedly obvious combinations teach or suggest all the limitations of the rejected claims.

Applicant thus submits that the rejection of claims 1-2 and 4-10 should be withdrawn.

c. rejection of claims 3, 16 and 20-26 based on *Bliesner* and *Tormey*

As further noted above, the Examiner has failed to establish that *Bliesner*, *Tormey* or any other reference, teaches, or even suggests, the claimed "coating substantially comprising an inorganically bonded ceramic." Thus, even if the purported teachings of *Bliesner* and *Tormey* are combined in the allegedly obvious fashion advanced by the Examiner, the resulting combinations fail to include all the limitations of the rejected claims.

In light of the foregoing, Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claims 3, 16 and 20-26, at least because the Examiner has not established that the purportedly obvious combinations teach or suggest all the limitations of the rejected claims.

Applicant thus respectfully submits that the rejection of claims 3, 16 and 20-26 should be withdrawn.

d. rejection of claim 3 based on *Bliesner* and *Tormey*

As further noted above, the Examiner has failed to establish that *Bliesner*, *Tormey* or any other reference, teaches, or even suggests, the claimed "coating substantially comprising an inorganically bonded ceramic." Thus, even if the purported teachings of *Bliesner* and *Tormey* are combined in the allegedly obvious fashion advanced by the Examiner, the resulting combinations fail to include all the limitations of the rejected claims.

In light of the foregoing, Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claim 3, at least because the Examiner has not established that the purportedly obvious combinations teach or suggest all the limitations of the rejected claims.

Applicant thus respectfully submits that the rejection of claim 3 should be withdrawn.

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CONCLUSION

In view of the remarks submitted herein, Applicant respectfully submits that each of the pending claims 1-36 is now in condition for immediate allowance. Therefore, reconsideration of the objections and rejections is requested and allowance of these claims is respectfully solicited. In the event that the Examiner finds any remaining impediment to a prompt allowance of this application that could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate the same with the undersigned attorney.

Dated this 21ST day of February, 2006.

Respectfully submitted,



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